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NOTICE OF ALLOWANCE AND FEE(S) DUE

27488

7590

09/04/2008

MERCHANT & GOULD (MICROSOFT)
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

EXAMINER

HEFFINGTON, JOHN M

ART UNIT

PAPER NUMBER

2179

DATE MAILED: 09/04/2008

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|----------------------------|------------------|
| 10/691,349 | 10/22/2003 | Sujal S. Parikh | 14917.0232U/S01/MS305927.0 | 6652 |

TITLE OF INVENTION: SYSTEMS AND METHODS FOR MANAGING PREPARATION OF GRAPHICAL ELEMENTS FOR PRESENTATION

| APPLN. TYPE | SMALL ENTITY | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|----------------|--------------|---------------|---------------------|----------------------|------------------|------------|
| nonprovisional | NO | \$1440 | \$300 | \$0 | \$1740 | 12/04/2008 |

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE** OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
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or Fax **(571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

27488 7590 09/04/2008

MERCHANT & GOULD (MICROSOFT)
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

| |
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| (Depositor's name) |
| (Signature) |
| (Date) |

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/691,349 10/22/2003

Sujal S. Parikh

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nonprovisional

NO

\$1440

\$300

\$0

\$1740

12/04/2008

| EXAMINER | ART UNIT | CLASS-SUBCLASS |
|----------|----------|----------------|
|----------|----------|----------------|

HEFFINGTON, JOHN M

2179

715-788000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

1

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

2

3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

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Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.**

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MERCHANT & GOULD (MICROSOFT)
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 775 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 775 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability**Application No.**

10/691,349

Examiner

JOHN M. HEFFINGTON

Applicant(s)

PARIKH ET AL.

Art Unit

2179

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to communication filed 17 April 2008.
2. ☒ The allowed claim(s) is/are 1,4,6,9-14,16,18-20,23,33 and 35.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 22 July 2008
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Ba Huynh/
Primary Examiner, Art Unit 2179

DETAILED ACTION

This action is in response to the Request for Continued Examination filed 17 April 2008. Claims 1, 4, 6, 9, 11-14, 18-20, 23, 25, 28-30 have been amended. Claims 2, 3, 5, 7, 8, 15, 17, 21, 22 and 24 have been canceled. Claims 31-33 have been added. Claims 1, 4, 6, 9-14, 16, 18-20, 23, 35-33 are pending and have been considered below.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in telephone interviews with Alton Hornsby on 4 August 2008 and 6 August 2008. The application has been amended as follows:

Claim 1: A method for managing the preparation of a set of graphical elements in a hierarchical structure for presentation, the method comprising:

identifying a first subset of the elements where measurement is desirable, wherein the measurement comprises measuring a root element and subsequently recursively measuring child elements of the root element,

identifying at least one island within the first subset of elements, wherein each element in the first subset has associated with it a respective island of elements and

~~wherein identifying the first subset comprises using a first data structure to represent the first subset of the elements; wherein the at least one island includes the root element and at least one of the following: zero of the child elements or more than zero of the child elements;~~

~~_____ adding the root element to a first data structure;~~

~~identifying a second subset of the elements where arrangement is desirable, wherein the arrangement comprises arranging a root element and subsequently recursively arranging child elements of the root element;~~

~~identifying at least one island within the second subset of elements, wherein each element in the second subset has associated with it a respective island of elements and wherein identifying the second subset comprises using a second data structure to represent the second subset of the elements; wherein the at least one island includes the root element and at least one of the following: zero of the child elements or more than zero of the child elements;~~

~~_____ adding the root element to a second data structure;~~

~~executing a first series of operations for measuring the elements comprising the first subset, wherein an operation of the first series of operations includes, determining whether each element in the first subset has any children and computing a size for any elements in the first subset having children, wherein the first series of operations further comprises:~~

a) identifying a maximal element represented in the first data structure, wherein the maximal element comprises the highest element in the first data structure, the first data structure comprising a hierarchical structure;

b) removing the maximal element's representation in the first data structure;

c) measuring the maximal element;

~~d) determining that a child element represented on the first data structure is a baby element when a parent element of the child element is being added to the first data structure;~~

~~e) removing from the baby element from the first data structure to minimize the number of elements in the first data structure; and~~

repeating the listed steps until the first data structure is empty; and

executing a second series of operations for arranging the elements comprising the second subset;

issuing a notify message that the layout of the measured and arranged elements has been updated.

Claim 7: canceled

Claim 8: canceled

Claim 9: The "f" at the beginning of line 3 will be changed to a "d"

Claim 13: The "f" at the beginning of line 3 will be changed to a "d". The "g" at the beginning of line 5 will be changed to an "e".

Claim 14: A system for managing the preparation of a set of graphical elements in a hierarchical structure for presentation, the system comprising:

~~a first data structure representing~~ a first subset of the set of graphical elements requiring measurement, wherein measurement comprises measuring a root element and subsequently recursively measuring child elements of the root element;

~~a second data structure representing~~ a second subset of the set of graphical elements requiring arrangement, wherein arrangement comprises arranging a root element and subsequently recursively arranging child elements of the root element;

using a first procedure for using the first data structure for managing the measuring of elements, wherein the first procedure determines whether each graphical element in the first subset of graphical elements has any children and computes a size for any elements in the first subset of graphical elements having children, wherein the first procedure further comprises:

a) identifying at least one island within the first subset of elements, wherein the at least one island includes the root element and at least one of the following: zero of the child elements or more than zero of the child elements;

b) adding the root element to a first data structure;

~~ac)~~ identifying a maximal element ~~represented in~~ within the first data structure, wherein the maximal element comprises the highest element in the first data structure, the first data structure comprising a hierarchical structure;

~~bd)~~ removing the maximal element's representation in the first data structure;

~~ee)~~ measuring the maximal element;

~~d)~~ determining that a child element ~~represented on the first data structure is a baby element when a parent element of the child element is being added to the first data structure;~~

~~e)~~ removing from the baby element from the first data structure to minimize the number of elements in the first data structure; and repeating the listed steps until the first data structure is empty; and

repeating the listed steps until the first data structure is empty; and

using a second procedure for; ~~using the second data structure for managing the arranging of elements, wherein the second procedure determines whether each graphical element in the second subset of graphical elements has any children and performs internal arrangement functions on any elements in the second subset of graphical elements having children.~~

a) identifying at least one island within the second subset of elements, wherein the at least one island includes the root element and at least one of the following: zero of the child elements or more than zero of the child of child elements; and

b) adding the root element to a second data structure;

issuing a notify message that the layout of the measured and arranged elements has been updated.

Claim 16: The "a" at the beginning of line 2 will be changed to a "c". The "b" at the beginning of line 3 will be changed to a "d". The "c" at the beginning of line 4 will be changed to a "e".

Claim 17: Canceled

Claim 20: A computer-readable medium including computer-executable instructions facilitating managing the preparation of graphical elements in a hierarchical structure for presentation in a system, the computer executable instructions ~~executing the steps of~~ comprising:

computer executable instructions for:

identifying a first subset of the elements in a hierarchical structure where measurement is desirable, wherein measurement comprises measuring a root element and subsequently recursively measuring child elements of the root element; ~~wherein identifying the first subset comprises using a first data structure to represent the first subset of the elements;~~

identifying at least one island within the first subset of elements, wherein each element in the first subset has associated with it a respective island of elements, and

wherein the at least one island includes the root element and at least one of the following: zero of the child elements or more than zero of the child elements;

adding the root element to a first data structure;

identifying a second subset of the elements in a hierarchical structure where arrangement is desirable, wherein arrangement comprises arranging a root element and subsequently recursively arranging child elements of the root; wherein identifying the second subset comprises using a second data structure to represent the second subset of the elements and

identifying at least one island within the second subset of elements, wherein each element in the second subset has associated with it a respective island of elements; and wherein the at least one island includes the root element and at least one of the following: zero of the child elements or more than zero of the child elements;

adding the root element to a second data structure;

executing a first series of operations for measuring the elements comprising the first subset, wherein the first series of operations ~~further~~ comprises:

- a) identifying a maximal element represented in the first data structure, wherein the maximal element comprises the highest element in the hierarchical structure;
- b) removing the maximal element's representation in the first data structure; and
- c) measuring the maximal element;
- d) ~~determining that a child element represented on the first data structure is a baby element when a parent element of the child element is being added to the first data structure;~~

~~e) removing from the baby element from the first data structure to minimize the number of elements in the first data structure; and~~

repeating the listed steps until the first data structure is empty;

~~executing a second series of operations for arranging the elements comprising the second subset, wherein the second series of operations comprises an operation of the second series of operations includes, determining whether each element in the second subset has any children and performing internal arrangement functions on any elements in the second subset of graphical elements having children, wherein the internal arrangement functions comprise computing a final size for a child element and utilizing the computed size to set a location for displaying the child element, wherein the location is stored as a coordinate of a geometric shape representing the child element;~~
and

issuing a notify message that the layout of the measured and arranged elements has been updated.

Claim 26: Canceled

Claim 27: Canceled

Claim 28: The "f" at the beginning of line 3 will be changed to a "d".

Claim 29: The "g" at the beginning of line 3 will be changed to an "e".

Claim 30: The "f" at the beginning of line 3 will be changed to a "d". The "g" at the beginning of line 5 will be changed to an "e".

(New) Claim 31: The method of claim 1 further comprising:

determining if an element on the first data structure is a baby, wherein an element is a baby if it is a child of the root element being added to the first data structure; and

removing the baby from the first data structure to minimize the number of elements in the first data structure.

(New) Claim 32: The system of claim 14, further comprising:

using the first procedure for determining if an element on the first data structure is a baby, wherein an element is a baby if it is a child of the root element being added to the first data structure; and

using the first procedure for removing the baby from the first data structure to minimize the number of elements in the first data structure.

(New) Claim 33: The computer-readable medium of claim 20, wherein the first series of operations further comprises:

determining if an element on the first data structure is a baby, wherein an element is a baby if it is a child of the root element being added to the first data structure; and

removing the baby from the first data structure to minimize the number of elements in the first data structure.

Disclosure of the Prior Art

Breinberg et al. (US 5,886,694) discloses a method for sizing and positioning controls within a window. The method involves two states, a specification stage and a layout stage. In the specification stage, a dialog window is subdivided into multiple nested rectangular frames. The set of frames for a dialog windows forms a hierarchical tree . In the layout stage, the method traverses the tree of frames twice. The first traversal of the frame tree occurs in postorder sequence, and determines the minimum required size of each frame. The second traversal of the tree occurs in preorder sequence, selectively expanding or repositioning frames within the available space. When the method completes, the determination for the Leaf Frames, the final coordinates of each control are known. The method then sets the coordinates of each control accordingly.

Halstead et al. (US 6,356,279 B1) discloses, in the layout of graphical objects, establishing elastics data structures for the graphical objects to define minimum and preferred sizes, stretchy properties and compression properties.

2. The following is an examiner's statement of reasons for allowance:

The following is an examiner's statement of reasons for allowance: Independent claims 1, 14 and 20 each when considered as a whole, are allowable over the prior art. Specifically, the prior art does not disclose updating a group of graphical elements according to the specific sequence of steps of measuring and arranging the elements as disclosed in the independent claims.

The respective dependent claims add further limitations to the allowable subject matter of the independent claims and are, therefore, allowable over the prior art of record. Specifically, the prior art fails to clearly teach or fairly suggest the combination of elements as recited in the claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN M. HEFFINGTON whose telephone number is (571)270-1696. The examiner can normally be reached on Mon - Fri 8:00 - 5:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Weilun Lo can be reached on (571) 272-4847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMH
8/29/08

/Ba Huynh/

Primary Examiner, Art Unit 2179